Detailed Listing f P nding Claims

- 1-24 (canceled).
- 25. (Currently amended) A pharmaceutical composition comprising:
- (i) an effective amount ranging from 0.1 mg to 10,000 mg of a compound of formula I:

or a pharmaceutically acceptable salt or nydrate thereot,

wherein

R is selected from the group consisting of a C_1 - C_9 straight or branched chain alkyl or C_2 - C_9 straight or branched chain alkenyl, C_3 or C_5 cycloalkyl, C_5 - C_7 cycloalkenyl, and Ar_1 ,

wherein said alkyl or alkenyl is optionally substituted with C_3 - C_8 cycloalkyl, C_1 - C_4 alkyl, C_2 - C_4 alkenyl, or hydroxy,

wherein said cycloalkyl or cycloalkenyl is optionally substituted with $C_1\text{-}C_4$ alkyl, $C_2\text{-}C_4$ alkenyl, or hydroxy,

Ar₁ is selected from the group consisting of 1-naphthyl, 2-naphthyl, 2-indolyl, 3-indolyl, 2-furyl, 3-furyl, 2-thiazolyl, 2-thiazolyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, and phenyl,

wherein said Ar₁ has one to three substituents which are independently selected from the group consisting of hydrogen, halo, hydroxyl, nitro, trifluoromethyl, C₁-C₆ straight or branched alkyl or C₂-C₆ straight or branched alkenyl, C₁-C₄ alkoxy or C₂-C₄ alkenyloxy, phenoxy, benzyloxy, and amino; X is selected from the group consisting of oxygen, sulfur, methylene, and H₂;

Y is selected from the group consisting of oxygen and NR2, where R2 is hydrogen or $C_1\text{-}C_6$ alkyl; and

Z is selected from the group consisting of C_2 - C_6 straight or branched chain alkyl or C_2 - C_6 straight or branched chain alkenyl, and Ar_2 ,

wherein the C₂-C₆ straight or branched alkyl is substituted in one or more positions with Ar₁ as defined above, C₃-C₈ cycloalkyl, or cycloalkyl connected by a C₁-C₆ alkyl or C₂-C₆ alkenyl;

Ar₂ is selected from the group consisting of 2-indolyl, 3-indolyl, 2-furyl, 3-furyl, 2-thiazolyl, 2-thiazolyl, 3-thiazolyl, 3-pyridyl, 4-pyridyl, and phenyl,

wherein said Ar₂ has one to three substituents which are independently selected from the group consisting of hydrogen, halo, hydroxyl, nitro, trifluoromethyl, C₁-C₆ straight or branched alkyl or C₂-C₆ straight or branched alkenyl, C₁-C₄ alkoxy or C₂-C₄ alkenyloxy, phenoxy, benzyloxy, and amino; or Z is a fragment having the following formula:

wherein

R₃ is a C₁-C₉ straight or branched alkyl or unsubstituted Ar₁, wherein said C₁-C₉ straight or branched alkyl is optionally substituted with C₃-C₈ cycloalkyl or Ar₁ as defined above;

X₂ is O or NR₅, where R₅ is selected from the group consisting of hydrogen, C₁-C₆ straight or branched alkyl, and C₂-C₆ straight or branched alkenyl; and

R₄ is selected from the group consisting of phenyl, benzyl, C₁-C₅ straight or branched alkyl or C₂-C₅ straight or branched alkenyl, and C₁-C₅ straight or branched alkyl or C₂-C₅ straight or branched alkenyl substituted with phenyl;

- (ii) a second hair revitalizing compound; and
- (iii) a pharmaceutically acceptable carrier.
- 26. (Previously presented) The pharmaceutical composition of claim 25 wherein the compound is of formula II:

or a pharmaceutically acceptable salt or hydrate thereof,

wherein

R is a C₁-C₉ straight or branched chain alkyl or C₂-C₉ straight or branched chain alkenyl C₃ or C₅ cycloalkyl, C₅-C₇ cycloalkenyl, or Ar₁,

wherein said C₁-C₉ straight or branched chain alkyl or C₂-C₉ straight or branched chain alkenyl is optionally substituted with C₃-C₈ cycloalkyl, C₁-C₄ alkyl, C₂-C₄ alkenyl, or hydroxy, wherein said cycloalkyl or cycloalkenyl is optionally substituted with C₁-C₄ alkyl, C₂-C₄ alkenyl, or hydroxy;

Ar₁ is selected from the group consisting of 1-naphthyl, 2-naphthyl, 2-indolyl, 3-indolyl, 2-furyl, 3-furyl, 2-thiazolyl, 2-thiazolyl, 3-thienyl, 2-pyridyl, 3-pyridyl, 4-pyridyl, and phenyl,

wherein said Ar₁ has one to three substituents which are independently selected from the group consisting of hydrogen, halo, hydroxyl, nitro, trifluoromethyl, C₁-C₆ straight or branched alkyl or C₂-C₆ straight or branched alkenyl, C₁-C₄ alkoxy or C₂-C₄ alkenyloxy, phenoxy, benzyloxy, and amino;

Z is a C₂-C₆ straight or branched chain alkyl or C₂-C₆ straight or branched chain alkenyl, C₃-C₈ cycloalkyl, cycloalkyl connected by a C₁-C₆ alkyl or C₂-C₆ alkenyl, or Ar₂, wherein said C₂-C₆ straight or branched alkyl chain is substituted in one or more positions with Ar₁,

Ar₂ is selected from the group consisting of 2-indolyl, 3-indolyl, 2-furyl, 3-furyl, 2-thiazolyl, 2-thiazolyl, 3-thiazolyl, 3-pyridyl, 4-pyridyl, and phenyl,

wherein said Ar₂ has one to three substituents which are independently selected from the group consisting of hydrogen, halo, hydroxyl, nitro, trifluoromethyl, C₁-C₆ straight or branched alkyl or C₂-C₆ straight or branched alkenyl, C₁-C₄ alkoxy or C₂-C₄ alkenyloxy, phenoxy, benzyloxy, and amino.

27. (Previously presented) The pharmaceutical composition of claim 25 wherein the compound is selected from the group consisting of:

3-phenyl-1-propyl (2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-phenyl-1-prop-2-(E)-enyl (2S)-1-(3,3,-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-(3,4,5-trimethoxyphenyl)-1-propyl (2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-(3,4,5-trimethoxyphenyl)-1-prop-2-(E)-enyl (2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-(4,5-methylenedioxyphenyl)-1-propyl (2S)-1-(3,3, dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-(4,5-methylenedioxyphenyl)-1-prop-2-(E)-enyl (2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-cyclohexyl-1-propyl (2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-cyclohexyl-1-prop-2-(E)-enyl (2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

(1R)-1,3-diphenyl-1-propyl (2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-phenyl-1-propyl (2S)-1-(1,2-dioxo-2-[2-furanyl])ethyl-2-pyrrolidinecarboxylate, 3-phenyl-1-propyl (2S)-1-(1,2-dioxo-2-[2-thienyl])entyl-2-pyrrolidinecarboxylate,

3-phenyl-1-propyl (2S)-1-(1,2-dioxo-2-[2-thiazolyl])ethyl-2-pyrrolidinecarboxylate,

3-phenyl-1-propyl (2S)-1-(1,2-dioxo-2, phenyl)ethyl-2-pyrrolidinecarboxylate,

3-(2,5-dimethoxyphenyl)-1-propyl (2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-(2,5-dimethoxyphenyl)-1-prop-2-(E)-enyl (2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

2-(3,4,5-trimethoxyphenyl)-1-ethyl (2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-(3-Pyridyl)-1-propyl (2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-(2-Pyridyl)-1-propyl (2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-(4-Pyridyl)-1-propyl (2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

3-phenyl-1-propyl (2S)-1-(2-cyclohexyl-1,2-dioxoethyl)-2-pyrrolidinecarboxylate,

3-phenyl-1-propyl (2S)-1-(2-tert-butyl-1,2-dioxoethyl)-2-pyrrolidinecarboxylate,

3-phenyl-1-propyl (2S)-1-(2-cyclohexylethyl-1,2-dioxoethyl)-2-pyrrolidinecarboxylate,

3-(3-Pyridyl)-1-propyl (2S)-1-(2-cyclohexylethyl-1,2-dioxoethyl)-2-pyrrolidinecarboxylate,

3-(3-Pyridyl)-1-propyl (2S)-1-(2-tert-butyl-1,2-dioxoethyl)-2-pyrrolidinecarboxylate,

3,3-diphenyl-1-propyl (2S)-1-(3,3-dimethyl-1,2-dioxopentyl)-2-pyrrolidinecarboxylate,

- 3-(3-Pyridyl)-1-propyl (2S)-1-(2-cyclohexyl-1,2-dioxoethyl)-2-pyrrolidinecarboxylate,
- 3-(3-Pyridyl)-1-propyl (2S)-N-([2-thienyl]glyoxyl) pyrrolidinecarboxylate,
- 3,3-Diphenyl-1-propyl (2S)-1-(3,3-dimethyl-1,2-dioxobutyl)-2-pyrrolidinecarboxylate,
 - 3,3-Diphenyl-1-propyl (2S)-1-cyclohexylglyoxyl-2-pyrrolidinecarboxylate, and
 - 3,3-Diphenyl-1-propyl (2S)-1-(2-thienyl)glyoxyl-2-pyrrolidinecarboxylate,
 - or a pharmaceutically acceptable salt, hydrate, or mixture thereof.
- 28. (New) A method of promoting hair germination comprising administering to an animal in need thereof a pharmaceutical composition of claim 25.
- 29. (New) A method of promoting hair germination comprising administering to an animal in need thereof a pharmaceutical composition of claim 26.
- 30. (New) A method of promoting hair germination comprising administering to an animal in need thereof a pharmaceutical composition of claim 27.
- 31. (New) A method of preventing hair loss comprising administering to an animal in need thereof a pharmaceutical composition of claim 25.
- 32. (New) A method of preventing hair loss comprising administering to an animal in need thereof a pharmaceutical composition of claim 26.
- 33. (New) A method of preventing hair loss comprising administering to an animal in need thereof a pharmaceutical composition of claim 27.
- 34. (New) A method of treating alopecia comprising administering to an animal in need thereof a pharmaceutical composition of claim 25.
- 35. (New) A method of treating alopecia comprising administering to an animal in need thereof a pharmaceutical composition of claim 26.

- 36. (New) A method of treating alopecia comprising administering to an animal in need thereof a pharmaceutical composition of claim 27.
- 37. (New) A method of treating hair loss comprising administering to an animal in need thereof a pharmaceutical composition of claim 25.
- 38. (New) A method of treating hair loss comprising administering to an animal in need thereof a pharmaceutical composition of claim 26.
- 39. (New) A method of treating hair loss comprising administering to an animal in need thereof a pharmaceutical composition of claim 27.
- 40. (New) A method of treating hair loss associated with cancer therapy, wherein the cancer therapy is selected from the group consisting of radiation and chemotherapy, comprising administering to an animal in need thereof a pharmaceutical composition of claim 25.
- 41. (New) A method of treating hair loss associated with cancer therapy, wherein the cancer therapy is selected from the group consisting of radiation and chemotherapy, comprising administering to an animal in need thereof a pharmaceutical composition of claim 26.
- 42. (New) A method of treating hair loss associated with cancer therapy, wherein the cancer therapy is selected from the group consisting of radiation and chemotherapy, comprising administering to an animal in need thereof a pharmaceutical composition of claim 27.

1. Status Of Claims

Claims 6-8, 10-12, 14-16, 18-20, and 22-24 are canceled, without prejudice or disclaimer. Claims 25-42 are pending. Claim 25 is amended. Support is found in the specification as filed, e.g., page 14, line 22. Claims 28-42 are withdrawn, but should be rejoined when the base claim is allowable.

2. Decision

The one issue presented for review was upheld. This paper presents amendments to avoid the issue.

3. 35 USC § 101 Double Patenting Rejection

Claims 25-27 avoid the 35 U.S.C. § 101 (double patenting) rejection over claims 22-24 of U.S. Patent No. 6,239,164, because each set of claims differs in scope.

An improper statutory double patenting rejection is made when the "same invention" is <u>not</u> claimed by two sets of claims. <u>MPEP</u> § 804 II. A. Nonidentical inventions may be identified by spotting embodiments that are excluded from one set of claims but not the other. <u>Id</u>.

Nonidentical inventions are claimed here, since the present claims embrace more embodiments in at least one aspect than the claims of the '164 patent. Specifically, a relevant part of present claim 25 reads as follows: "an amount ranging from 0.1 to